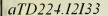
# **Historic, Archive Document**

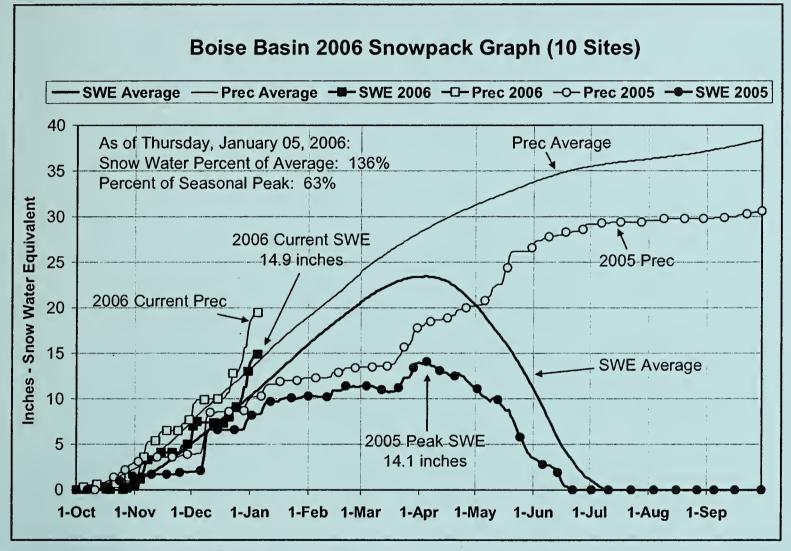
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# Idaho Water Supply Outlook Report January 1, 2006



The mountain snowpack across central and southern Idaho is much better than last year. In fact, the Boise and Big Wood basin snowpack have just surpassed last year's peak snow water content. The average snow water equivalent for the Boise basin, based on ten SNOTEL sites, is 14.9 inches. Last year's peak was 14.1 inches in early April. The Boise basin snowpack is currently 136% of average; this is already 63% of the seasonal peak with more than half the winter still to come. Total precipitation since the water year started October 1, 2005 is 19.5 inches. By comparison this value was not exceeded until the third week of April in 2005. With the snowpack, precipitation and reservoir storage looking more encouraging than in recent years, water supplies could be the best since the drought started in 2000.

# Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

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#### How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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#### IDAHO WATER SUPPLY OUTLOOK REPORT

## January 1, 2006

#### **SUMMARY**

Calendar year 2005 started with the continuation of the drought as January and February set record low combined precipitation totals. However, the year ended with frozen soils, ice jams and floods in parts of Idaho in December. If the skies wouldn't have opened up in May and December, 2005 would have been another dry year. The wet weather in the latter part of December doubled the snowpack in the central mountains and allowed the Boise and Big Wood basins to already surpass last year's peak snow water amounts. The highest snowpacks are 130-150% of average in Idaho's central mountains. The lowest are in the Panhandle Region at 56% of average in the Coeur d'Alene basin. December precipitation ranged from 200% of average in the basins south of the Snake River basin to 84% in the Panhandle. December's precipitation not only boosted lower elevation streams and reservoir storage but also primed the soils for when the snow melts. Most reservoirs are 80-110% of average, except Bear Lake, Blackfoot, Magic and Salmon Falls reservoirs which are 40-70% of average. Streamflow forecasts range from a low of 72% of average for the tributaries in the Panhandle Region to 133% for the Big Wood River below Magic Dam. The Snake River near Heise is forecast at 108% of average and when combined with current reservoir storage could produce the best water supplies since 1999. The water supply outlook picture is more encouraging this year than it has been in the past, with more than half the winter still to come, lets hope Mother Nature doesn't turn the spigot off in the second half of winter as we have seen in recent years.

#### **SNOWPACK**

The warmer, wet weather that replaced the cold, dry weather in the second half of December doubled the amount of snow water content in the central mountains. The higher elevation SNOTEL sites in the Boise and Big Wood basins, where nearly all the precipitation fell as snow, doubled the amount of snow water equivalent on the ground between December 20 and January 1. Snow depths in the higher elevations also doubled at a few measuring stations. Deadwood Summit SNOTEL site increased from 47 inches of snow on the ground on December 19 to 103 inches on January 1. Both the Boise basin snowpack, 129% of average, and Big Wood basin, 145%, have just exceeded their snow water content peaks of last season. Elsewhere in the state, snowpacks are 120% of average in the Upper Snake and Salmon basins and 135-150% in the Bear River, Oakley and Salmon Falls basins. The Clearwater basin is 77% of average while the lowest snowpack in the state is 56% in the Coeur d'Alene basin. The Panhandle Region snowpack is only 31% of its seasonal peak while the Little Wood basin, which is 155% of average, already has 66% of its seasonal snowpack.

#### **PRECIPITATION**

October precipitation varied with above average amounts in northern Idaho and near to below in southern. November precipitation set the pattern for December with below average in the north and above in the south each month. After a good snowfall in late November, cold, dry weather with inversions moved in and finally broke in mid-December bringing warmer temperature with rain and snow. The warm temperatures produced rain falling up to 7,000 feet in late December, created ice jams on some rivers and thawed the frozen valley soils from early December. The frozen soils have since thawed but contributed to more runoff and less infiltration of the water. Orchard Range SNOTEL site recorded frozen soils at 20 inches deep, temperatures of 20 degrees F eight inches below the surface, and 16 degrees F two inches deep in mid-December. Deadwood Summit and Trinity Mountain SNOTEL sites in central Idaho received over 15 inches of precipitation in December, average amounts are 9.5 inches. This isn't a record, in December 1996 Deadwood Summit received 30 inches and Trinity Mountain received 25 inches of precipitation. South Mountain SNOTEL site in the Owyhee basin received 2.8 inches of precipitation in 24 hours on December 30. Water year to date precipitation increases from north to south in the state; amounts range from 85% of average in the Panhandle Region to 140% in the basins south of the Snake River.

#### **RESERVOIRS**

Thanks to abundant rainfall last May that reduced irrigation demand and allowed reservoirs to store more water and even fill, reservoir carryover storage is much better than a year ago. As of the end of December, most reservoirs are 80-110% of average, except Blackfoot Bear Lake, Magic and Salmon Falls reservoirs which are 40-70% of average. Similar to last May, most reservoirs got a boost in inflow in late December from the rain and flooding in some areas. Owyhee Reservoir increased 150,000 acre-feet in less than two weeks and is now 66% full. Storage in Bear Lake and Jackson Lake is still below average but they have over three times as much water as a year ago.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases, dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report..

#### **STREAMFLOW**

Prior to the late December wet spell, most streams in Idaho were flowing at or below average. Some streams, such as the Salmon River at White Bird were below average since last June. This is a sign that the fall rains helped to improve soil moisture, but did not saturate the soils. Cold weather in early December caused ice to form on many streams. Now, most streams that are not iced over are flowing above average except in the Snake River canyon which remains near record low because of the drought and low spring flows. The December precipitation not only provided a boost in flows and reservoir storage but also primed the soils which will help to improve the snowmelt runoff efficiency when the snow melts. Current streamflow forecasts range from a low of 72% of average in the Panhandle tributaries to around 130% in the Middle Fork Salmon, Big Wood and South Fork Boise basins. Elsewhere, the Snake River near Heise is forecast at 108% of average and Bear River at Stewart Dam is forecast at 113%. The forecast numbers mentioned in this narrative are the volume under the 50% Chance of Exceeding, which means there is a 50% chance the volume will be greater or less than the given value.

#### RECREATION

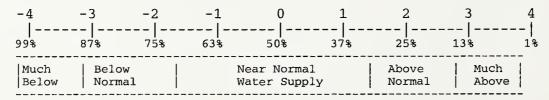
The recent precipitation and cooler temperatures delivered delightful news for winter recreationists. Snow water content amounts doubled and a few SNOTEL sites are reporting 100 inches of snow on the ground in the central mountains. However, heavy snowfall and rain falling up to 7,000 feet in the central mountains created wet and soggy snowpacks which increased avalanche danger. More seasonable temperatures have stabilized the snowpack and even allowed powder days for skiers across the state. River runners should be excited to see above average snowpacks in the southern two-thirds of the state. The Middle Fork Salmon River is forecast at 127% of average, Bruneau River at 121%, and Owyhee River near Rome at 106%. The Selway and Lochsa rivers are forecast at 102% and 95% of average, respectively. With more than half the winter still to come, conditions can still improve or deteriorate. Lets hope the storms keep coming to maintain a healthy snowpack for winter and summer users of this resource.

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1971 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

·	SWSI	Most Recent Year With Similar SWSI Value	Agricultural Water Supply Shortage May Occur When SWSI is
BASIN or REGION	Value		Less Than
PANHANDLE	-1.9	1998	NA
CLEARWATER	-0.2	2000	NA
SALMON	1.0	1995	NA
WEISER	1.7	1996	NA
PAYETTE	2.0	1999	NA
BOISE	1.7	1999	-2.1
BIG WOOD	1.3	1996	-1.0
LITTLE WOOD	1.3	1999	-2.0
BIG LOST	1.7	1999	-0.5
LITTLE LOST	0.3	1996	0.0
HENRYS FORK	0.7	1996	-3.3
SNAKE (HEISE)	1.0	1998	-2.0
OAKLEY	1.3	1997	-1.0
SALMON FALLS	1.0	1999	-1.0
BRUNEAU	2.0	1998	NA
BEAR RIVER	-2.0	2002	-3.8

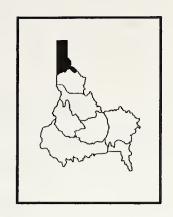
#### SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

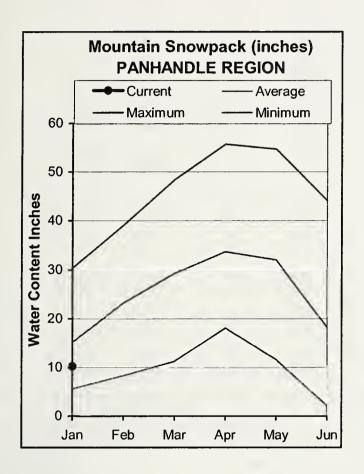


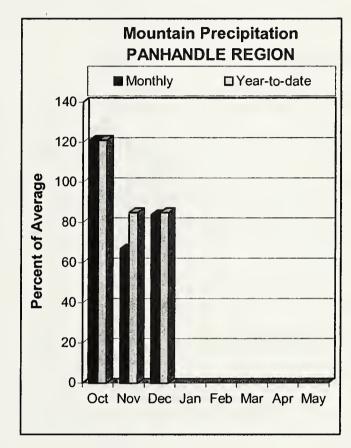
NA = Not Applicable

Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

# PANHANDLE REGION JANUARY 1, 2006







#### WATER SUPPLY OUTLOOK

The new water year started with a bang in the Panhandle bringing precipitation that was 121% of average in October, but it has been all downhill since. November precipitation was 67% of average and December brought 84%, the lowest in the state. The Panhandle Region missed the abundant moisture that the southern half of the state received. Cold temperatures in early December finally gave way to warmer temperatures and rain near the end of December melting lower elevation snow, increasing streams. However, frozen soils in some areas prevented some of the moisture from infiltrating and increased runoff. The late December precipitation was not enough to bounce the snowpack up to normal levels and the snow remains the lowest in the state and similar to last year. Coeur d'Alene River basin hosts the lowest snowpack in the state at 56% of average, same as a year ago. The Priest River snowpack is 76% of average, slightly better than last year while the Pend Oreille is 86%, 30% better than last year. Overall, the Panhandle snowpack is 67% of average, but is only 31% of its seasonal peak. Streams are forecast at 72-97% of average. With more than half the winter still to come, much more moisture is needed otherwise water users will be hoping for above average spring precipitation to make up for the lack of winter snows.

# PANHANDLE REGION Streamflow Forecasts - January 1, 2006

		<<===== 	Drier ====	== Future Co	nditions ==	===== Wetter	====>>	
Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	50 (1000AF)	% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at Leonia (1,2)	APR-JUL APR-SEP	4360 4490	5660 6360	=====================================	89   89	6840 8060	8140 9930	7040 8120
MOYIE RIVER at Eastport	APR-JUL	190	250	290	72	330	390	405
	APR-SEP	200	265	305	73	345	410	420
SMITH CREEK	APR-JUL	74	92	104	85	116	134	123
	APR-SEP	76	96	109	85	122	142	129
BOUNDARY CREEK	APR-JUL	72	89	100	81	111	128	123
	APR-SEP	75	92	104	81	116	133	129
CLARK FK at Whitehorse Rpds (1,2)	APR-JUL	5970	9360	10900	97	12440	15830	11300
	APR-SEP	6570	10310	12000	96	13690	17430	12500
PEND OREILLE Lake Inflow (2)	APR-JUL	8140	10620	12300	97	13980	16460	12700
	APR-SEP	8860	11560	13400	96	15240	17940	13900
PRIEST near Priest River (1,2)	APR-JUL	570	710	775	95	840	980	815
	APR-SEP	495	720	825	95	930	1155	870
NF COEUR D'ALENE RIVER AT ENAVILLE	APR-JUL	455	580	665	90	750	875	740
	APR-SEP	480	610	700	90	790	920	780
ST. JOE at Calder	APR-JUL	710	895	1020	90	1140	1330	1140
	APR-SEP	765	955	1080	90	1210	1400	1200
SPOKANE near Post Falls (2)	APR-JUL	1410	1900	2240	88	2580	3070	2550
	APR-SEP	1480	1980	2330	88	2680	3180	2650
SPOKANE at Long Lake (2)	APR-JUL	1480	2120	2550	90	2980	3620	2850
	APR-SEP	1630	2300	2760	90	3220	3890	3070

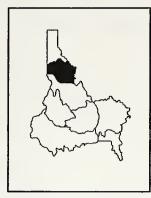
	PANHANDLE REGION   Watershed Snowpack Analysis - January 1, 200				
ge ***       Avg	Watershed	Number of Data Sites	This Yea	r as % of  Average	
2420.9	Kootenai ab Bonners Fe	erry 14	86	68	
1192.7	Moyie River	4	83	65	
315.8	Priest River	4	117	76	
673.4	Pend Oreille River	63	130	86	
110.1	Rathdrum Creek	1	159	72	
55.7	Hayden Lake	0	0	0	
	Coeur d'Alene River	6	104	56	
ļ	St. Joe River	4	122	69	
	Spokane River	9	112	60	
	Palouse River	1	150	47	
1	Avg   2420.9   1192.7   315.8   673.4   110.1	Watershed  Avg  2420.9 Kootenai ab Bonners Form  1192.7 Moyie River  315.8 Priest River  673.4 Pend Oreille River  110.1 Rathdrum Creek  55.7 Hayden Lake  Coeur d'Alene River  St. Joe River  Spokane River	Watershed of   Data Sites	Avg         Watershed         of Data Sites         Last Yr           2420.9         Kootenai ab Bonners Ferry 14         86           1192.7         Moyie River         4         83           315.8         Priest River         4         117           673.4         Pend Orei11e River         63         130           110.1         Rathdrum Creek         1         159           55.7         Hayden Lake         0         0           Coeur d'Alene River         6         104           St. Joe River         4         122           Spokane River         9         112	

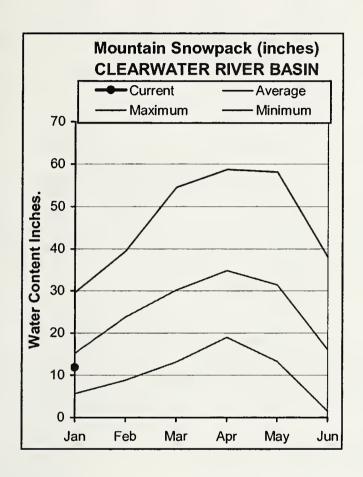
<sup>\*</sup> 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

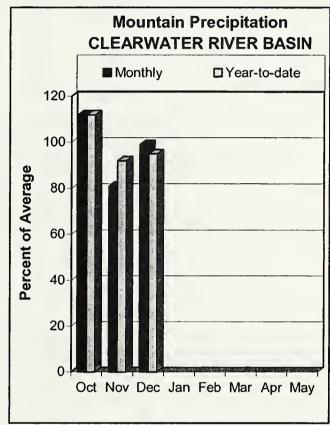
<sup>(1) -</sup> The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

<sup>(2) -</sup> The value is natural volume - actual volume may be affected by upstream water management.

# CLEARWATER RIVER BASIN JANUARY 1, 2006







#### WATER SUPPLY OUTLOOK

Monthly precipitation for the current water year started out above average at 112%, decreased to 81% in November, and was near average in December. Precipitation for the water year is 95% of average, which is above last year, but nothing to brag about. Snowpacks are 73% of average in the North Fork Clearwater basin, 81% of average in the Lochsa basin and 106% in the Selway basin. Overall, the Clearwater River basin is 77% of average, better than last year, but remember last year snow was only 62% of average. Dworshak Reservoir is 66% full, which is average for this time of year. Streamflow forecasts call for near to slightly below average volumes with Dworshak Reservoir inflow and the Lochsa river forecast about 95% of average while the Selway and Clearwater River at both Orofino and Spalding are forecast about 102% of average. With more than half winter still to come and the snowpack at only 35% of its seasonal peak, the water supply outlook is not as encouraging as in the southern half of the state. The Salmon River basin is the dividing area between above average snowpacks to the south and below average to the north. More storms are needed to maintain a healthy snowpack for the numerous water users.

#### CLEARWATER RIVER BASIN

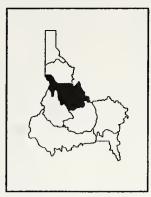
Streamflow Forecasts - January 1, 2006

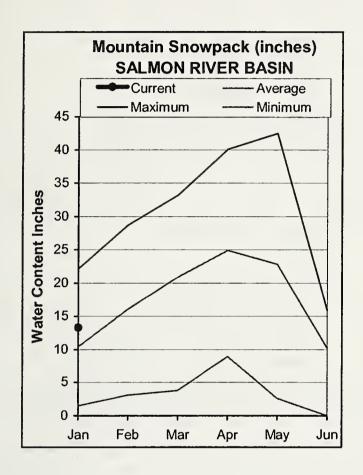
		Streamilo	w Forecas	cs – Ja	nuary 1,	2006 				
		<<=====	= Drier =	===== ]	Future Co	onditions =====	== Wetter	. ====>>		
Forecast Point	Forecast Period	90%   (1000AF)	70% (1000AF	?)	50 (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	j	0-Yr Avg. (1000AF)
SEIWAY near Lowel1	APR-JUL APR-SEP	1560 1640	1880 1970	===   ===:     	2090 2200	102	2300 2430	2620 2760	====	2060 2170
LOCHSA near Lowell	APR-JUL APR-SEP	1050 1130	1290 1370		1450 1530	95   95	1610 1690	1850 1930		1530 1610
DWORSHAK RESV INFLOW (1,2)	APR-JUL APR-SEP	1420 1550	2060 2210		2450 2600	93 93	2840 2990	3700 3850		2640 2800
CLEARWATER at Orofino (1)	APR-JUL APR-SEP	2550 2810	4070 4330		4760 5020	102 102	5450 5710	6970 7230		4650 4900
CLEARWATER at Spalding (1,2)	APR-JUL APR-SEP	3690 4110	6260 6680		7430 7850	100	8600 9020	11170 11590		7430 7850
Reservoir Storage (1	· ·	of Decemb		======	•	Watershed Snowp	-	is — Janua	-	
Reservoir	Usable   Capacity		le Storag Last Year		     Water 	shed	Numbe of Data Si	r This	s Year	r as % of  Average
DWORSHAK	3468.0	2292.6	======= 2627.3	2228.2	======   North	Fork Clearwate	c 9	116		73
					Lochs	a River	3	148		81
		*			   Se1wa	y River	4	150		106
					Clear	water Basin Tot	al 17	125		77

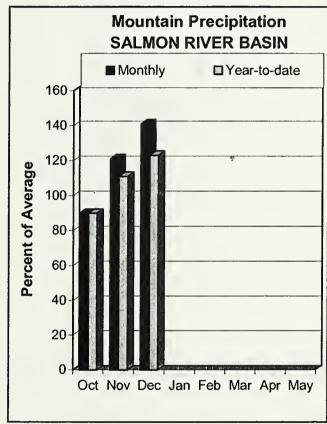
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (1) The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) The value is natural volume actual volume may be affected by upstream water management.

# SALMON RIVER BASIN JANUARY 1, 2006







#### WATER SUPPLY OUTLOOK

The new water year started where last water year ended with monthly precipitation below average at 92% in October. November brought 115% of average precipitation. Then cold, dry weather in early December gave way to warmer and much wetter weather the second half of the month. December precipitation was 141% of average ranging from nearly twice normal in the central and west-central mountains to 90% of average along the Montana border. Snowpack percentages mirror the precipitation patterns with the lowest amount in the Lemhi basin at 109% of average and higher amounts in the South Fork and Middle Fork Salmon Rivers at 136%. Streamflow forecasts mirror the snow and precipitation patterns with the Lemhi River forecast at 98% of average and the Salmon River above Salmon forecast at 115%. The Middle Fork Salmon River is forecast at 127% of average. The December precipitation brought the Salmon River at White Bird to above average levels for the first time since early June, and the streamflow forecast is 111% of average for the April through July period. In terms of accumulating snow, the Salmon River snowpack is two weeks ahead of schedule and at half of its seasonal peak. Water supplies and river running opportunities are looking great at this time; however, the Salmon River basin is the dividing area between above average snowpacks to the south and below average to the north. Let's hope the storms keep coming to maintain a healthy snowpack this year.

#### 

#### SALMON RIVER BASIN

Streamflow Forecasts - January 1, 2006

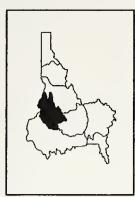
		<<=====	: Drier ====	== Future Co	onditions ==	====== Wetter	=====>>	
Forecast Point	Forecast Period	90%	70%	= Chance Of E	)% [	30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
SALMON at Salmon (1)	APR-JUL APR-SEP	545 700	845 1000	985   1140	115 114	1125 1280	1425 1580	855 1000
Lemhi River nr Lemhi	APR-JUL APR-SEP	46 59	67 84	   84   103	98 98	103 125	134 160	86 105
MF Salmon at MF Lodge	APR-JUL APR-SEP	683 764	864 962	1000 1110	127 127	1145 1268	1377 1520	785 875
SALMON at White Bird (1)	APR-JUL APR-SEP	4140 4840	5760 6460	   6490   7190 	111 111	7220 7920	8840 9540	5850 6480
	ALMON RIVER RASIN					CALMON RIVER B	ACTNI	

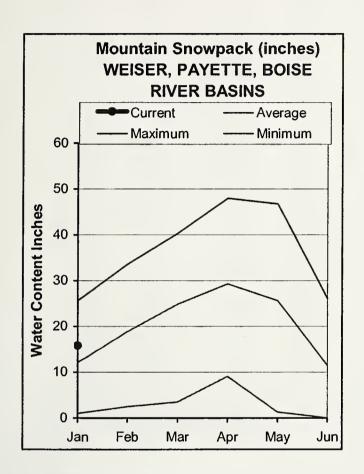
	SALMON RIVER BASIN   Reservoir Storage (1000 AF) - End of December					SALMON RIVER BASIN   Watershed Snowpack Analysis - January 1, 2006					
Reservoir	Usable   Capacity	*** Usab This Year	le Storag Last Year	e ***   Avg	Watershed	Number of Data Sites	This Year	r as % of  Average			
		======	=======	======	Salmon River ab Salmon	9	167	131			
					Lemhi River	6	133	109			
					Middle Fork Salmon Rive	r 3	196	136			
					South Fork Salmon River		190	136			
					Little Salmon River	4	150	117			
					Salmon Basin Total	24	160	122			

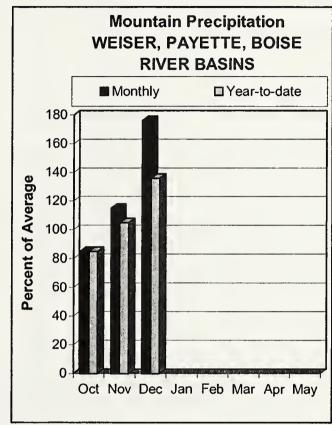
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (1) The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
  (2) The value is natural volume actual volume may be affected by upstream water management.

# WEISER, PAYETTE, BOISE RIVER BASINS JANUARY 1, 2006







#### WATER SUPPLY OUTLOOK

The new water year started in October with above normal precipitation and it hasn't let up since. October precipitation was 126% of average, followed by 115% in November, and whopping 176% in December. Deadwood Summit and Trinity Mountain SNOTEL received over 15 inches of precipitation in December, average amounts are 9.5 inches. This isn't a record, in December 1996 Deadwood Summit received 30 inches and Trinity Mountain received 25 inches of precipitation. Warm temperatures resulted in rain falling up to 7,000 feet in late December and thawed the frozen soils that had occurred in the valleys in the first half of December from the colder than normal temperatures. The frozen soils contributed to more runoff and less infiltration of water. Orchard Range SNOTEL site recorded frozen soils at 20 inches deep, temperatures of 20 degrees F eight inches below the surface, and 16 degrees F two inches deep in mid-December. Snowpacks are 120% of average in the Weiser basin, 123% in the Payette, and 129% in the Boise. The Boise basin snow water content has just exceeded last year's peak amount. Reservoir storage increased and is now near average in the Payette system and 83% of average in the Boise system. Streams are forecast at 115-130% of average in these basins. With near average reservoir storage, above average snowpacks, and better soil moisture, water supplies are looking encouraging unless Mother Nature turns the faucet off for the second half of winter.

## WEISER PAYETUE ROISE RIVER BASINS

WEISER, PAYETTE, BOISE RIVER BASINS Streamflow Forecasts - January 1, 2006

			Drier ====		nditions ==	===== Wetter	====>>	
Forecast Point	Forecast Period	   ======   90%	======================================	= Chance Of E   50		30%	10%	20. V× 3
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	30-Yr Avg. (1000AF)
WEISER near Weiser (1)	APR-SEP	270	430	505	120	580	740	420
SF PAYETTE at Lowman	APR-JUL	370	455	510	116	565	650	440
	APR-SEP	420	510	570 	115	630	720	495
DEADWOOD RESERVOIR Inflow (1,2)	APR-JUL	109	145	161	120	177	213	134
	APR-SEP	119	155	171	120	187	223	142
LAKE FORK PAYETTE near McCall	APR-JUL	83	95	103	121	111	123	85
	APR-SEP	87	99	107	120	115	127	89
NF PAYETTE at Cascade (1,2)	APR-JUL	395	530	   595	121	660	795	490
	APR-SEP	445	580	645	122	710	845	530
NF PAYETTE nr Banks (2)	APR-JUL	560	695	   785	122	875	1010	645
	APR-SEP	610	755	850 	123	945	1090	690
PAYETTE nr Horseshoe Bend (1,2)	APR-JUL	1280	1750	1960	122	2170	2640	1610
	APR-SEP	1430	1910	2130	122	2350	2830	1750
BOISE near Twin Springs (1)	APR-JUL	575	705	765	121	825	955	635
	APR-SEP	575	750	830	120	910	1090	690
SF BOISE at Anderson Ranch Dam (1,2	) APR-JUL	550	650	695	129	740	840	540
	APR-SEP	500	670	745	128	820	990	580
MORES CREEK near Arrowrock Dam	APR-JUL	108	137	156	119	175	205	131
	APR-SEP	112	141	161	118	181	210	137
BOISE near Boise (1,2)	APR-JUN	1100	1440	1590	126	1740	2080	1260
	APR-JUL	1180	1590	1780	126	1970	2380	1410
	APR-SEP	1320	1740	1930	126	2120	2540	1530

WETSER.	PAYETTE,	BOTSE	RTVER	BASTNS
***************************************		20101		2222
Reservoir Sto	rage $(100)$	0 AF) -	End o	of December

WEISER, PAYETTE, BOISE RIVER BASINS Watershed Snowpack Analysis - January 1, 2006

	(							
Reservoir	Usable   Capacity	*** Usa This Year	able Stora Last Year	ge *** Avg	Watershed	Number of Data Sites		r as % of ====== Average
MANN CREEK	11.1	======= 3.9	1.6	3.3	Mann Creek	1	199	135
CASCADE	693.2	451.2	463.2	456.4	Weiser River	3	162	120
DEADWOOD	161.9	71.2	73.0	82.5	North Fork Payette	8	166	120
ANDERSON RANCH	450.2	234.3	217.3	296.8	South Fork Payette	5	187	132
ARROWROCK	272.2	160.7	85.7	173.1	Payette Basin Total	14	168	123
LUCKY PEAK	293.2	74.1	84.6	95.5	Middle & North Fork Bois	se 5	185	136
LAKE LOWELL (DEER FLAT)	165.2	86.4	114.2	98.4	South Fork Boise River	9	168	142
				   	Mores Creek	5	120	106
					Boise Basin Total	16	156	129
					Canyon Creek	2	145	134

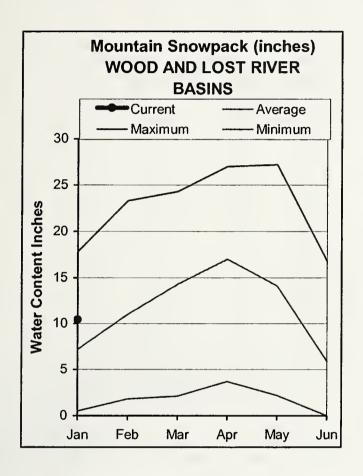
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

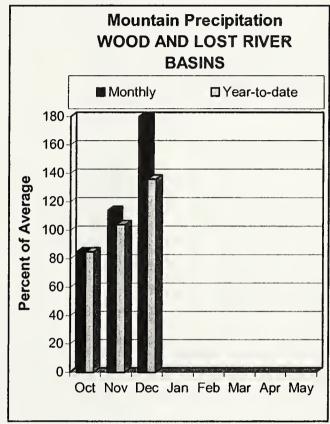
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<sup>(2) -</sup> The value is natural volume - actual volume may be affected by upstream water management.

# WOOD and LOST RIVER BASINS JANUARY 1, 2006







#### WATER SUPPLY OUTLOOK

Late December and early January storms continued pumping moisture into Idaho's central mountains. As a result of the southwest moisture pattern flow, higher mountains and colder temperatures, the central mountains now have the highest snowpacks in the state. As of January 5th, snowpack percentages are 161% of average in the Little Wood basin, 151% in Big Wood and Big Lost basins, and 110% in the Little Lost basin. Precipitation in December was 180% of average and is 136% of average for the water year. December precipitation ranged from near average in the headwaters of the Little Lost basin along the Montana border. Higher precipitation amounts were 250% of average in the Camas Creek and Little Wood basins. Soldier RS SNOTEL site received 8.1 inches in May, 2005 and received 9.7 inches in December 2005. December's amount is the second greatest monthly amount since the station was installed October 1986. The greatest monthly amount was 14.3 inches in December 1996 which led to the New Year's Day flooding. Other SNOTEL sites that received more than 9 inches in December include: Camas Creek, Lost-Wood Divide and Vienna Mine. The abundant precipitation improved soil moisture and increased streams to above average levels. This will help improve the snow melt runoff efficiency later this spring. Reservoir storage increased; Magic Reservoir is 63% of average, 26% capacity, this is the greatest December 31 amount since 2000. Little Wood and Mackay reservoirs are near average and about half full. Streamflow forecasts are very encouraging and range from near average volumes in the Little Lost River to over 130% of average in Big Wood River and Camas Creek.

#### WOOD AND LOST RIVER BASINS Streamflow Forecasts - January 1, 2006

						===== Wetter	· ====>>	
Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	50   (1000AF)	% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BIG WOOD at Hailey (1)	APR-JUL APR-SEP	178 204	268 303	=====================================	124   122	366 411	492 547	255 290
BIG WOOD ab Magic Reservoir	APR-JUL APR-SEP	111 139	185 215	   250   270	132 132	329 325	473 400	190 204
CAMAS CREEK near Blaine	APR-JUL APR-SEP	68 69	106 107	   136   137	136 136	170 171	227 228	100 101
BIG WOOD below Magic Dam (2)	APR-JUL APR-SEP	195 210	310 325	385 405	133 133	460 485	575 600	290 305
LITTLE WOOD R ab High Five Ck	MAR-JUL MAR-SEP APR-JUL APR-SEP	55 60 51 56	81 88 77 83	102 110 97 105	120   120   124   124	125 134 120 129	163 174 157 169	85 92 78 85
LITTLE WOOD near Carey (2)	MAR-JUL MAR-SEP APR-JUL APR-SEP	64 70 58 64	97 105 89 97	119 128 110 119	124   123   126   127	141 151 131 141	174 186 162 174	96 104 87 94
BIG LOST at Howell Ranch	APR-JUL APR-SEP	106 121	160 183	   197   225	114   114	233 268	288 328	173 197
BIG LOST bl Mackay Reservoir	APR-JUL APR-SEP	88 107	132 161	   162   198	115 115	192 234	238 289	141 172
LITTLE LOST b1 Wet Creek	APR-JUL APR-SEP	19.0 24	26 32	30 38	97   97	34 44	41 52	31 39

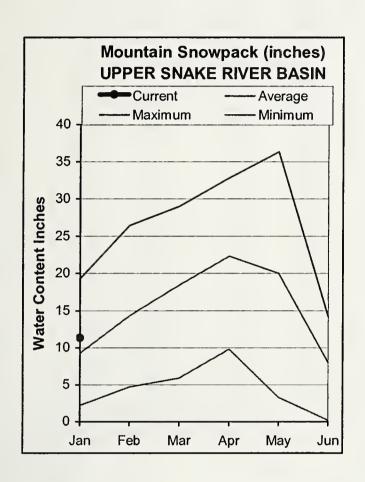
	WOOD AND LOST RIVER BASINS  Reservoir Storage (1000 AF) - End of December						WOOD AND LOST RIVER BASINS   Watershed Snowpack Analysis - January 1, 2006				
Reservoir	Usable   Capacity	*** Usal This Year	ole Storaç Last Year	ge ***       Avg	Watershed	Number of Data Sites	This Yea	r as % of  Average			
MAGIC	191.5	49.9	20.0	79.7	Big Wood ab Hailey	8	158	145			
LITTLE WOOD	30.0	15.5	10.2	14.1	Camas Creek	5	158	141			
MACKAY	44.4	23.5	15.4	23.7	Big Wood Basin Total	13	158	144			
					Fish Creek	0	0	0			
					Little Wood River	· 5	159	155			
					Big Lost River	5	161	148			
					Little Lost River	3	131	107			
					Birch-Medicine Lodge C	ree 2	120	101			
					Camas-Beaver Creeks	4	108	106			

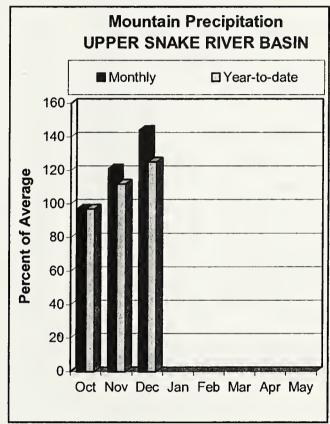
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- (2) The value is natural volume actual volume may be affected by upstream water management.

# **UPPER SNAKE BASINS JANUARY 1, 2006**







#### WATER SUPPLY OUTLOOK

The water year started with average precipitation in October. November was 121% of average and increased to 144% in December. This brings the water year to date precipitation to 125% of average and is better than last year. As of January 5th, snowpacks are 130% of average for the Henrys Fork and Teton basins. The Snake basin snowpack above Palisades Reservoir is 124% of average while the lower elevation drainages of Willow, Blackfoot and Portneuf basins are 128%. Reservoir storage is also better than last year with Palisades and Jackson Lake having a combined storage of 76% of average, 52% of capacity. American Falls Reservoir is 86% of average, 51% of capacity and Blackfoot 37% of average, 23% of capacity. Streamflow forecasts are encouraging thus far with forecasts at 102-120% of average. The Snake River near Heise is forecast at 108% of average and when combined with current reservoir storage could produce the best water supplies since 1999. However, with more than half the winter still to come, the water supply outlook picture can change for the better or worse as we have seen in recent years.

#### UPPER SNAKE RIVER BASIN

Streamflow Forecasts - January 1, 2006

				======================================			======================================	=======================================
Forecast Point	Forecast	•			_			
	Period	90%	70%	50		30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
HENRYS FORK near Ashton (2)	APR-JUL	485	540	580	102	620	675	570
	APR-SEP	670	735	780	102	825	890	765
HENRYS FORK near Rexburg (2)	APR-JUL	1340	1510	1630	105	1750	1920	1560
	APR-SEP	1780	1970	2100	105	2230	2420	2010
FALLS RIVER nr Ashton (2)	APR-JUL	325	380	415	109	450	505	380
	APR-SEP	385	445	490	109	535	595	450
TETON RIVER NEAR DRIGGS	APR-JUL	124	154	175	106	196	227	165
	APR-SEP	158	195	220	105	245	280	210
TETON near St. Anthony	APR-JUL	315	380	425	105	470	535	405
	APR-SEP	380	455	j 505	105	555	630	480
SNAKE at Flagg Ranch	APR-JUL	405	490	550	117	610	695	470
	APR-SEP	440	535	i 600	117	ĺ 665	760	515
SNAKE nr Moran (1,2)	APR-JUL	695	835	i 900	110	j 965	1110	815
` , , .	APR-SEP	765	925	1000	111	i 1070	1240	905
PACIFIC CREEK at Moran	APR-JUL	162	188	205	120	220	250	171
	APR-SEP	171	197	215	121	235	260	178
SNAKE ab resv nr Alpine (1,2)	APR-JUL	1910	2360	2570	108	2780	3230	2370
	APR-SEP	2220	2730	2960	108	3190	3700	2730
GREYS above Palisades	APR-JUL	295	355	395	116	435	495	340
	APR-SEP	345	410	455	115	500	565	395
SALT near Etna	APR-JUL	275	345	390	115	435	505	340
Di Di Ticor Dana	APR-SEP	345	425	480	114	535	615	420
SNAKE nr Irwin (1,2)	APR-JUL	2650	3310	3610	108	3910	4570	3330
-	APR-SEP	3110	3850	4190	108	4530	5270	3870
SNAKE near Heise (2)	APR-JUL	3040	3520	3840	108	4160	4640	3560
Divide fical ficible (2)	APR-SEP	3580	4120	4490	108	4860	5400	4160
WILLOW CREEK nr Ririe	MAR-JUL	44	70	91	103	115	155	88
BLACKFOOT RESV INFLOW	APR-JUN	59	92	115	96	138	171	120
SNAKE nr Blackfoot (1,2)	APR-JUL	3700	4670	5110	111	5550	6520	4600
DIVINE III DICENTOCE (1,2)	APR-SEP	4830	5800	6240	111	l 6680	7650	5620
PORTNEUF at Topaz	MAR-JUL	73	86	95	107	104	117	89
PONTNEOF AC TOPAZ	MAR-SEP	88	104	114	105	104	140	109
AMERICAN FALLS RESV INFLOW (1,2)	APR-JUL	2010	3200	3740	115	124   4280	5470	3240
PRIBLICAN PALID RESV INFILM (1,2)		2320	3510	1 4050	115	l 4590	5780	3510
	APR-SEP	2320	2010	4000	112	4550	3780	2210

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of December

UPPER SNAKE RIVER BASIN Watershed Snowpack Analysis - January 1, 2006

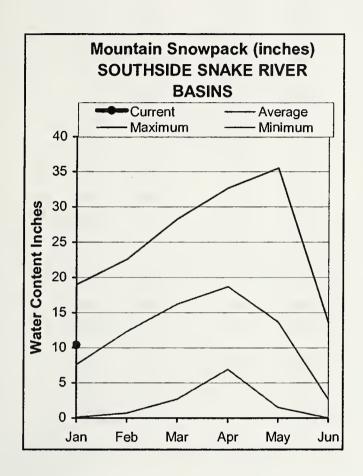
_	Usable   *** Usable St			age ***	*****	Number	This Year as % of	
Reservoir	Capacity	This Year	Last Year	Avg	Watershed I	of ata Sites	Last Yr	Average
HENRYS LAKE	90.4	86.1	64.2	82.5	Henrys Fork-Falls River	8	135	127
ISLAND PARK	135.2	83.5	70.5	96.1	Teton River	3	140	114
GRASSY LAKE	15.2	7.6	8.6	11.6	Henrys Fork above Rexbur	g 11	136	124
JACKSON LAKE	847.0	381.8	119.6	481.7	Snake above Jackson Lake	5	150	126
PALISADES	1400.0	779.3	496.2	1036.5	Gros Ventre River	2	134	110
RIRIE	80.5	38.1	30.3	34.5	Hoback River	5	142	109
BLACKFOOT	348.7	79.3	28.0	215.3	Greys River	4	143	112
AMERICAN FALLS	1672.6	852.1	748.5	986.6	Salt River	3	149	119
					Snake above Palisades	17	145	119
					Willow Creek	2	136	117
				İ	Blackfoot River	2	143	123
					Portneuf River	3	118	114
				j	Snake abv American Falls		139	120

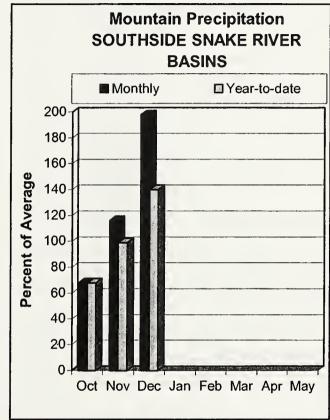
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- (2) The value is natural volume actual volume may be affected by upstream water management.

# SOUTHSIDE SNAKE RIVER BASINS JANUARY 1, 2006







#### WATER SUPPLY OUTLOOK

Precipitation since the water year started continues to improve with each month. October precipitation was 68% of average, November 116% and December was nearly twice average at 198% of average. Late December rainfall washed roads out and produced flooding in Owyhee County. The Owyhee River near Rome rose 10 feet in 5 days, peaking at over 20,000 cfs on January 1 and producing the highest peak flow since 1997. Owyhee Reservoir increased over 150,000 acre-feet in less than two weeks and is now 66% full. These other high desert streams are also flowing above average; soils are saturated and primed for more rain or when the snow melts. The low elevation Owyhee basin snowpack is 100% of average, 46% of its seasonal peak. Snowpacks in the higher elevation basins of Oakley, Salmon Falls and Bruneau are 130-150% of average, 60% of their seasonal peak. Salmon Falls Reservoir is 20% full, 69% of average; Oakley Reservoir is 36% full, 107% of average. Streamflow forecasts call for 115-125% of average runoff. With more water in the reservoirs and snowpacks at 60% of their April 1 seasonal peaks, spring and summer streamflows are looking promising as long as the moisture doesn't shut off completely in the second half of winter.

# SOUTHSIDE SNAKE RIVER BASINS Streamflow Forecasts - January 1, 2006

		<<=====	======================================					
Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	= Chance Of Exceeding * 50% (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
OAKLEY RESERVOIR INFLOW	MAR-JUL	<b>2</b> 5	33	40	118	=====================================	 59	34
	MAR-SEP	27	36	43	116	51	63	37
SALMON FALLS CREEK nr San Jacinto	MAR-JUN	71	90	103	116	116	135	89
	MAR-JUL	73	94	108	116	122	143	93
	MAR-SEP	78	99	114	116	129	150	98
BRUNEAU near Hot Spring	MAR-JUL	190	244	285	121	   329	400	235
	MAR-SEP	200	257	300	120	346	420	250
OWYHEE near Gold Creek (2)	MAR-JUL	25	34	40	125	   46	55	32
	MAR-SEP	26	34	40	129	46	54	31
OWYHEE nr Owyhee (2)	APR-JUL	49	80	101	123	   122	153	82
OWYHEE near Rome	FEB-JUL	347	540	l   695	106	l I 870	1163	655
	FEB-SEP	363	558	<b>j</b> 715	106	891	1185	675
OWYHEE RESV INFLOW (2)	FEB-JUL	386	583	   740	106	   916	1208	700
	FEB-SEP	416	616	775	106	j 952	1246	730
	APR-SEP	231	355	455	106	567	754	430
SUCCOR CK nr Jordan Valley	FEB-JUL	12.1	19.2	   24	124	   28	36	19.3
SNAKE RIVER at King Hill (1,2)	APR-JUL	1039	1989	   2420	82	2850	3800	2940
SNAKE RIVER near Murphy (1,2)	APR-JUL	1200	2163	   2600	84	3035	4000	3090
Reynolds Creek nr Tollgate	MAR-JUL	7.1	10.0	12.3	127	14.8	18.9	9.7
SNAKE RIVER at Weiser (1,2)	APR-JUL	2975	5117	   6090	106	   7065	9200	5770
SNAKE RIVER at Hells Canyon Dam (1,	2 APR-JUL	3705	6053	7120	110	   8190	10530	6490
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	11970	19304	l l 22700	105	l l 26100	33570	21600

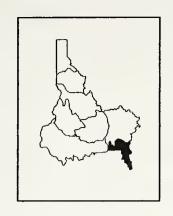
SOUTHSIDE Reservoir Storage	•	SOUTHSIDE SNAKE RIVER BASINS   Watershed Snowpack Analysis - January 1, 2006								
Reservoir	Usable   Capacity		This Last				Watershed	Number of Data Sites	This Yea	r as % of  Average
OAKLEY	75.6	27.4	10.0	25.7	Raft River	1	173	174		
SALMON FALLS	182.6	36.4	15.2	52.6	Goose-Trapper Creeks	3	148	152		
WILDHORSE RESERVOIR	71.5	37.5	13.6	37.8	Salmon Falls Creek	6	136	131		
OWYHEE	715.0	473.9	163.0	398.1	Bruneau River	5	149	134		
BROWNLEE	1420.0	1420.7	1373.4	1303.0	Reynolds Creek	0	0	0		
					Owyhee Basin Total	8	149	100		

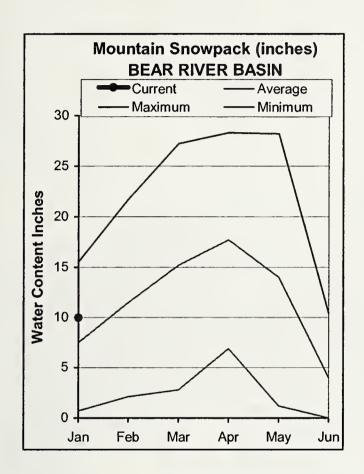
<sup>\*</sup> 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

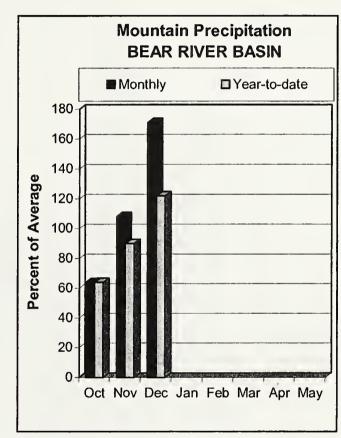
<sup>(1) -</sup> The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

<sup>(2) -</sup> The value is natural volume - actual volume may be affected by upstream water management.

# BEAR RIVER BASIN JANUARY 1, 2006







## WATER SUPPLY OUTLOOK

Precipitation in October was only 64% of average, November was near average and December was well above average at 171%. Water year to date precipitation is 122% of average and is slightly better than last year at this time. Snowpacks range from 125% of average for Smith and Thomas forks to 157% for the Cub River. Overall, the Bear River snowpack is 131% of average; last year the snow was 108% of average. A year ago, storage in Bear Lake was 7% of capacity; today it is 26% of capacity, 41% of average. Montpelier Reservoir is 68% full, 159% of average. Streams are forecast near average or better for the April-September period. Water supplies are looking encouraging at this time, but can change with more than half the winter still to come. Last June we wrote 'Hopefully, the dry years are behind us and the wet cycle will continue for years', thus far the wet cycle is continuing as the Bear River basin had always been one of the dry areas in the state since the drought started in 2000.

#### BEAR RIVER BASIN Streamflow Forecasts - January 1, 2006

		<<=====						
Forecast Point	Forecast Period	   =======   90%   (1000AF)	70% (1000AF)	= Chance Of E   50   (1000AF)	_	30%   (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bear River nr UT-WY State Line	APR-JUL APR-SEP	85 92	108 118		110 109		163 180	113 125
Bear River ab Reservoir nr Woodruff	APR-JUL APR-SEP	88 94	125 132	   150   157	110 111	175   182	210 221	136 142
Big Creek nr Randolph	APR-JUL	1.5	3.2	4.8	98	6.7	10.1	4.9
Smiths Fork nr Border	APR-JUL APR-SEP	83 96	105 121	120 138	117 114	135 155	157 180	103 121
Bear River at Stewart Dam	APR-JUL APR-SEP	153 173	216 242	265 295	113 113	319 354	408 450	234 262
Little Bear River at Paradise	APR-JUL	25	38	48	104	60	79	46
Logan R Abv State Dam Nr Logan	APR-JUL	83	113	136	108	161	202	126
Blacksmith Fk Abv Up&L Dam Nr Hyrum	APR-JUL	31	45	55 	115	67	86	48
BEAR RIVER BASIN   BEAR RIVER BASIN								

Reservoir Storage	(1000 AF) - End	of Decem		Watershed Snowpack Analysis - January 1, 2006				
Reservoir	Usable   Capacity  	*** Usa This Year	ble Stora Last Year	ge ***       Avg	Watershed	Number of Data Sites	This Yea  Last Yr	r as % of Average
BEAR LAKE	1421.0	370.8	95.7	907.5	Smiths & Thomas Forks	3	129	125
MONTPELIER CREEK	4.0	2.7	1.5	1.7	Bear River ab WY-ID line	e 10	116	131
					Montpelier Creek	1	241	144
					Mink Creek	1	133	144
					Cub River	1	143	157
					Bear River ab ID-UT line	e 15	119	131
					Malad River	1	124	139

<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

<sup>(1) -</sup> The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

<sup>(2) -</sup> The value is natural volume - actual volume may be affected by upstream water management.

Streamflow Adjustment List for All Forecasts Published in Idaho Water Supply Outlook Report: streamflow forecasts are projections of runoff volumes that would occur without influences from upstream reservoirs or diversions. These values are referred to as natural, unregulated or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made for each forecast point. (Revised Dec. 2005).

#### Panhandle River Basins

Kootenai R at Leonia, ID

+ Lake Koocanusa (Storage Change)

Boundary Ck nr Porthill, ID - No Corrections

Moyie R at Eastport, ID - No Corrections

Smith Creek nr Porthill, ID - No Corrections

Clark Fork R at Whitehorse Rapids, ID

- + Hungry Horse (Storage Change)
- + Flathead Lake (Storage Change)
- + Noxon Rapids Resv (Storage Change)

Pend Oreille Lake Inflow, ID

- + Pend Oreille R at Newport, WA
- + Hungry Horse (Storage Change)
- + Flathead Lake (Storage Change)
- + Noxon Rapids (Storage Change
- + Pend Oreille Lake (Storage Change)
- + Priest Lake (Storage Change)

Priest R nr Priest R, ID

+ Priest Lake (Storage Change)

NF Coeur d'Alene R at Enaville, ID - No Corrections

St. Joe R at Calder, ID - No Corrections

Spokane R nr Post Falls, ID

+ Coeur d'Alene Lake (Storage Change)

Spokane R at Long Lake, WA

- + Coeur d'Alene Lake (Storage Change)
- + Long Lake, WA (Storage Change)

#### Clearwater River Basin

Selway R nr Lowell - No Corrections

Lochsa R nr Lowell - No Corrections

Dworshak Resv Inflow, ID

- + Clearwater R nr Peck, ID
- Clearwater R at Orofino, ID
- + Dworshak Resv (Storage Change)

Clearwater R at Orofino, ID - No Corrections

Clearwater R at Spalding, ID

+ Dworshak Resv (Storage Change)

#### Salmon River Basin

Salmon R at Salmon, ID - No Corrections

Lemhi R nr Lemhi, ID – No Corrections

MF Salmon R at MF Lodge, ID - No Corrections

Salmon R at White Bird, ID - No Corrections

#### Weiser, Payette, Boise River Basins

Weiser R nr Weiser, ID - No Corrections

SF Payette R at Lowman, ID - No Corrections

Deadwood Resv Inflow, ID

- + Deadwood R blw Deadwood Resv nr Lowman
- + Deadwood Resv (Storage Change)

Lake Fork Payette R nr Mccall, ID - No Corrections

NF Payette R at Cascade, ID

- + Cascade Resv (Storage Change)
- + Payette Lake (Storage Change)

NF Payette R nr Banks, ID

- + Cascade Resv (Storage Change)
- + Payette Lake (Storage Change)

Payette R nr Horseshoe Bend, ID

- + Cascade Resv (Storage Change)
- + Deadwood Resv (Storage Change)
- + Payette Lake (Storage Change)

Boise R nr Twin Springs, ID - No Corrections

SF Boise R at Anderson Ranch Dam, ID

+ Anderson Ranch Resv (Storage Change)

Boise R nr Boise, ID

- + Anderson Ranch Resv (Storage Change)
- + Arrowrock Resv (Storage Change)
- + Lucky Peak Resv (Storage Change)

#### Wood and Lost River Basins

Big Wood R at Hailey, ID - No Corrections

Big Wood R abv Magic Resv, ID

- + Big Wood R nr Bellevue, ID
- + Willow Ck

Camas Ck nr Blaine - No Corrections

Big Wood R blw Magic Dam nr Richfield, ID

+ Magic Resv (Storage Change)

Little Wood R abv High Five Ck, ID - No Corrections

Little Wood R nr Carey, ID

+ Little Wood Resv (Storage Change)

Big Lost R at Howell Ranch, ID - No Corrections

Big Lost R blw Mackay Resv nr Mackay, ID

+ Mackay Resv (Storage Change)

Little Lost R blw Wet Ck nr Howe, ID - No Corrections

#### Upper Snake River Basin

Henrys Fork nr Ashton, ID

- + Henrys Lake (Storage Change)
- + Island Park Resv (Storage Change)

Henrys Fork nr Rexburg, ID

- + Henrys Lake (Storage Change)
- + Island Park Resv (Storage Change)
- + Grassy Lake (Storage Change)
- + Diversions from Henrys Fk btw Ashton to St. Anthony, ID
- + Diversions from Henrys Fk btw St. Anthony to Rexburg, ID
- + Diversions from Falls R abv nr Ashton, ID
- + Diversions from Falls R nr Ashton to Chester, ID

Falls R nr Ashton, ID

- + Grassy Lake (Storage Change)
- + Diversions from Falls R abv nr Ashton, ID

Teton R nr Driggs, ID - No Corrections

Teton R nr St. Anthony, ID

- Cross Cut Canal into Teton R
- + Sum of Diversions for Teton R abv St. Anthony, ID

Snake R nr Moran, WY

- + Jackson Lake (Storage Change)
- Pacific Ck at Moran, WY No Corrections

Snake R abv Palisades, WY

+ Jackson Lake (Storage Change)

Greys R abv Palisades, WY - No Corrections

Salt R aby Palisades, WY – No Corrections

Snake R nr Irwin, ID

- + Jackson Lake (Storage Change)
- + Palisades Resv (Storage Change)

Snake R nr Heise, ID

- + Jackson Lake (Storage Change)
- + Palisades Resv (Storage Change)

Willow Ck nr Ririe, ID

+ Ririe Resv (Storage Change)

Blackfoot Resvervoir Inflow, ID

- + Blackfoot Reservoir releases
- + Blackfoot Resv (Storage Change

Snake R nr Blackfoot, ID

- + Palisades Resv (Storage Change)
- + Jackson Lake (Storage Change)
- + Diversions from Snake R btw Heise and Shelly
- + Diversions from Snake R btw Shelly and Blackfoot

Portneuf R at Topaz, ID - No Corrections

American Falls Resv Inflow, ID

- + Snake River at Neeley
- + All Corrections made for Henrys Fk nr Rexburg, ID
- + Jackson Lake (Storage Change)
- + Palisades Resv (Storage Change)
- + Diversions from Snake R btw Heise and Shelly
- + Diversions from Snake R btw Shelly and Blackfoot

#### Southside Snake River Basins

Oakley Resv Inflow, ID

- + Goose Ck abv Trapper Ck
- + Trapper Ck nr Oakley

Salmon Falls Ck nr San Jacinto, NV - No Corrections

Bruneau R nr Hot Springs, ID - No Corrections

Owyhee R nr Gold Ck, NV

+ Wildhorse Resv (Storage Change)

Owyhee R nr Owyhee, NV

+ Wildhorse Resv (Storage Change)

Owyhee R nr Rome, OR – No Corrections

Owyhee Resv Inflow, OR

- + Owyhee R blw Owyhee Dam, OR
- + Owyhee Resv (Storage Change)
- + Diversions to North and South Canals

Succor Ck nr Jordan Valley, OR - No Corrections

Snake R at King Hill, ID - No Corrections

Snake R nr Murphy, ID - No Corrections

Snake R at Weiser, ID - No Corrections

Snake R at Hells Canyon Dam, ID

+ Brownlee Resv (Storage Change)

#### Bear River Basin

Bear R nr UT-WY Stateline, UT - No Corrections

Bear R aby Resy nr Woodruff, UT - No Corrections

Smiths Fork nr Border, WY - No Corrections

Bear R blw Stewart Dam nr Montpelier, ID

- + Bear R blw Stewart Dam
- + Rainbow Inlet Canal

Reservoir Capacity Definitions (Units in 1,000 Acre-Feet, KAF)

Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists these volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. (Revised Dec. 2005)

Basin/ Reservoir		active A	Active S Storage S	urcharge torage		NRCS Capacity Includes
Panhandle Region	1					
Hungry Horse	39.73		3451.00	)	3451.0	Active
Flathead Lake	Unknown		1791.00		1791.0	Active
Noxon Rapids	Unknown		335.00		335.0	Active
Pend Oreille	406.20	112.40	1042.70		1561.3	Dead+Inactive+Active
Coeur d'Alene		13.50	225.00		238.5	Inactive+Active
Priest Lake	20.00	28.00	71.30		119.3	Dead+Inactive+Active
Clearwater Basin	<u>n</u>					
Dworshak	:	1452.00	2016.00	)	3468.0	Inactive+Active
Weiser/Boise/Pay	yette Basins					
Mann Creek	1.61	0.24	11.10	)	11.1	Active
Cascade		46.70	646.50	)	693.2	Inactive+Active
Deadwood			161.90	)	161.9	Active
Anderson Ranch	24.90	37.00	413.10	)	450.1	Inactive+Active
Arrowrock			272.20	)	272.2	Active
Lucky Peak		28.80	264.40	13.80	293.2	Inactive+Active
Lake Lowell	7.90	5.80	159.40	)	165.2	Inactive+Active
Wood/Lost Basin	8					
Magic	Unknown		191.50		191.5	Active
Little Wood			30.00		30.0	Active
Mackay	0.13		44.37		44.4	Active
Upper Snake Bas:	<u>in</u>					
Henrys Lake			90.40		90.4	Active
Island Park	0.40		127.30	7.90	135.2	Active+Surcharge
Grassy Lake			15.18		15.2	Active
Jackson Lake	Unknown		847.00		847.0	Active
Palisades	44.10	155.50	1200.00		1400.0	Dead+Inactive+Active
Ririe	4.00	6.00	80.54	10.00	80.5	Active
Blackfoot			348.73		348.7	Active
American Falls			1672.60		1672.6	Active
Southside Snake	Basins					
Oakley	0		75.60		75.6	Active
Salmon Falls	48.00	5.0	182.65		182.6	Active+Inactive
Wildhorse			71.50		71.5	Active
Owyhee	406.83		715.00		715.0	Active
Brownlee	0.45	444.70	975.30	_ =	1420.0	Inactive+Active
Bear River Basi:	n					
Bear Lake		F 119.0	1302.00		i	Active+Inactive: ncludes 119 that an be released
Montpelier Cree	k 0.21		3.84		4.0	Dead+Active

#### **Interpreting Streamflow Forecasts**

#### Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflovv forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations, There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

#### To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value.

There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast. There is a 90 percent

chance that the streamflow volume will exceed this forecast value.

There is a 10 percent chance the streamflow volume will be less than this forecast value.

#### To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having

too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

10 Percent Chance of Exceeding Forecast. there is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

#### Using the forecasts - an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River near Death between March I and July 31.

Using the Higher Exceedence Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three Out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

## WEISER, PAYETTE, BOISE RIVER BASINS Streamflow Forecasts

Forecast Point	Forecast		<pre>&lt;-====== Drier ====== Future Conditions ======= Wetter =====&gt;&gt;   ======= Chance Of Exceeding * =============  </pre>							
	Period	90% (1000AF)	70% (1000AF)	50% (Most	_	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)		
SF PAYETTE RIVER at Lowman	APR-JUL APR-SEP	329 369	414 459	471 521	109 107	528 583	613 673	432 488		
BOISE RIVER near Twin Springs (1)	APR-JUL APR-SEP	443 495	610 670	685 750	109 109	760 830	927 1005	631		

For more information concerning streamflow forecasting ask your local NRCS field office for a copy of "A Field Office Guide for Interpreting Streamflow Forecasts" or visit our Web page.

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